UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
LIANG, GWEN

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No. ●	Applicant(s)
Office Action Summary	09/692,433	TIFFT, WILLIAM WATSON
	Examiner	Art Unit	
	GWEN LIANG	2172	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _12 September 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21 and 40-42_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21 and 40-42_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4)☐ Interview Summary (PTO-413) Paper No(s). _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to communications: Amendment B, filed on 09/12/2003.

Claims 1-21 and 40-42 are pending. Claims 1 and 12 are independent claims.

Response to Arguments

2.   Applicant's arguments with respect to all the pending claims filed on 09/12/2003

in paper No. 10 have been considered but are moot in view of the new ground(s) of

rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 3, 7-12, 14, 18-21 and 40, 42 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Neal et al., "Neal" (U.S. Patent No. 6,324,534), further in view of

Ozawa et al., "Ozawa" (JP. Patent No. 7-271798).

With respect to claim 1, Neal teaches a method comprising the steps of:

implementing a plurality of search rules that include one or more data elements,

wherein the combination of data elements in each rule is configured to identify a target

record (See for example: Abstract, "The system accepts search terms from a user, and

then executes a sequence of search strategies on subsets of the database which may

include a proximity search, a word count search, and a fuzzy logic search."; col. 3 line

63 – col. 4 line 2, "According to the present invention, a method of selecting data records in a catalog database comprises the following steps: inputting search terms to a user interface; testing the search terms against a sequence of data sets using search algorithms designated for each data set; and terminating the sequence of search algorithms when at least one database record satisfied the search criteria."); and

retrieving a plurality of records identified by the search rules as possible matches to the target record (See for example: Abstract, "The user can page through the list of displayed matches");

However Neal does not explicitly disclose a method comprising: arranging the search rules ...; executing the search rules according to the rank order ...; collecting a plurality of statistical values ...; calculating an efficiency measure ... and adjusting the rank order ...

Ozawa discloses a method comprising:

arranging the search rules in a rank order of execution; and executing the search rules according to the rank order to retrieve the target record; (See for example: page 5 section [0001], "This invention relates to an information retrieval technique evaluation method and device for same for automatically selecting the optimal information retrieval technique when multiple information retrieval techniques are available. In particular, it relates to an evaluation method and device for **a database retrieval** technique where the relationship between retrieval conditions and data that should be retrieved changes often according to [the needs of the] user, as represented by a current events information database, such as for newspaper articles."; page 9 of section [0011], "...a

sorting means that places the average values obtained for each retrieval technique in a prescribed order"; page 18 section 38 lines 6-8, "By outputting the retrieval technique numbers **arranged in order** of smaller evaluation value as step 20, **they can be selected in order** from the retrieval techniques closer to human judgment.");

collecting a plurality of statistical values related to the performance of each search rule executed in attempt to locate the target record (See for example: pages 7-8 section [0008], "With this invention, ... an information retrieval technique evaluation method is proposed that is an evaluation method for the retrieval efficiency of an information retrieval technique used on an information retrieval system that acquires retrieved data that match data to be retrieved given in advance from a database, that calculates the retrieval efficiency of respective retrieval techniques **from an external evaluation value** that indicates whether the data in the database match the data to be retrieved determined by at least one or more persons, **and a value** as to whether or not the data in the database match the data to be retrieved determined by the information retrieval technique, and that determines the merits of the retrieval technique, ... The aforementioned one datum evaluation value is created for the combination of all the given data to be retrieved and the data in the database and **the average value of all the one-datum evaluation values is calculated**".); and

calculating an efficiency measure for each search rule using the collected values, where the efficiency measure measures how efficient a corresponding search rule is in finding a match with the target record (See for example: page 10 section [0014] line 13 – page 11 line 4, "In addition, the average value of all the data evaluation values is

calculated, and by using this as the **retrieval effici ncy evaluation value** for the

information retrieval technique, **the retrieval efficiency is represented using one**

index. By **sequencing the valuation values** calculated for at least one or more

information retrieval techniques, the merits of each type of information retrieval

technique are determined."); and

adjusting the rank order of the search rules (See for example: page 15 section

[0028], "Sorting module (8) **rearranges** the retrieval techniques in evaluation value

buffer (7) in order of the smaller evaluation values.").

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to incorporate a method of ranking search rules as disclosed by

Ozawa into the method of implementing search rules as taught by Neal for automatically

selecting the optimal information retrieval technique when multiple information retrieval

techniques are available (See for example: page 5 section [0001] lines 3-5) One of

ordinary skill in the art would be motivated to make the aforementioned combination

with reasonable expectation of success.

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and

furthermore Ozawa teaches a method wherein one of the collected statistical values

corresponds to number of instances that a search rule retrieves one or more records as

possible matches to the target record (See for example: pages 7-8 section [0008]).

Claim 7 is rejected for the reasons set forth hereinabove for claim 1 and

furthermore Ozawa teaches a method wherein one of the collected statistical values

corresponds to a number of instances that a search rule retrieves a plurality of records,

wherein the plurality of records acre subsequently determined to correspond to the target record (See for example: pages 7-8 section [0008]).

Claim 8 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method wherein one of the collected statistical values corresponds to the number of records of the plurality of retrieved records determined not to be the target record (See for example: pages 7-8 section [0008]).

Claim 9 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method wherein the enterprise system determines the efficiency for each search rule according to the collected statistics for the search rule, and wherein the rank order of the search rules are arranged in descending order by efficiency (See for example: page 13 lines 20-22; page 15 section [0028]).

Claim 10 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method wherein a user of the enterprise system determines the efficiency based upon the collected statistics and arranges the rank order of the search rules according to the determined efficiency (See for example: page 9 lines 20-21).

Claim 11 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method wherein the enterprise system and search rules are executed in a computer (See for example: page 14 section [0020]).

Claim 40 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method where calculating an efficiency measure further

comprises calculating a probability that a corresponding search rule will find a match (See for example: page 7-8 section [0008]).

Claim 42 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Ozawa teaches a method where calculating an efficiency measure further comprises calculating a percentage of possible matches found by a rule that are determined to be actual matches (See for example: page 8-9 section [0011]).

Claims 12, 14, 18-21 are rejected on grounds corresponding to the reasons given above for claims 1, 3, 7-10.

5.   Claims 2, 4, 13, 15, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal et al., "Neal" (U.S. Patent No. 6,324,534), further in view of Ozawa et al., "Ozawa" (JP. Patent No. 7-271798), and further in view of Natarajan et al., "Natarajan" (U.S. Patent No. 4,752,890).

Claim 2 is rejected for the reasons set forth hereinabove for claim 1. However the combination of Neal and Ozawa does not explicitly disclose a method wherein one of the collected statistical values corresponds to number of instances that a search rule is executed to search for the target record.

Natarajan teaches a method wherein one of the collected statistical values corresponds to number of instances that a search rule is executed to search for the target record (See for example: col. 6 lines 8-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to collect the number of instances that a search rule is executed as disclosed by Natarajan as one of the collected statistical values of a search rule

executed to search for the target record as taught by the combination of Neal and

Ozawa. The information it gathers from repeated observations of the execution of the

search program is used to produce automatically a near-optimal ordering of the

alternatives. (See for example: col. 4 lines 62-66). One of ordinary skill in the art would

be motivated to make the aforementioned combination with reasonable expectation of

success.

Claim 4 is rejected for the reasons set forth hereinabove for claim 1. However

the combination of Neal and Ozawa does not explicitly disclose a method wherein one

of the collected statistical values corresponds to an elapsed time value equivalent to an

amount of time spent executing a search rule to retrieve a record.

Natarajan teaches a method wherein one of the collected statistical values

corresponds to an elapsed time value equivalent to an amount of time spent executing a

search rule to retrieve a record (See for example: col. 18 line 64 – col. 19 line 2).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to collect an elapsed time value as disclosed by Natarajan as one

of the collected statistical values of a search rule executed to search for the target

record as taught by the combination of Neal and Ozawa in order to develop a history of

the monitored quantifiable performance parameters (See for example: col. 18 lines 64–

65). One of ordinary skill in the art would be motivated to make the aforementioned

combination with reasonable expectation of success.

Claim 41 is rejected for the reasons set forth hereinabove for claim 1. However

the combination of Neal and Ozawa does not explicitly disclose a method where

calculating an efficiency measure further comprises calculating a percentage of rule firings in which a corresponding search rule finds a possible match.

Natarajan teaches a method where calculating an efficiency measure further comprises calculating a percentage of rule firings in which a corresponding search rule finds a possible match (See for example: col. 6 lines 8-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a method of calculating a percentage of rule firings in which a corresponding search rule finds a possible match as disclosed by Natarajan into the method of calculating an efficiency measure as taught by the combination of Neal and Ozawa. The information it gathers from repeated observations of the execution of the search program is used to produce automatically a near-optimal ordering of the alternatives. (See for example: col. 4 lines 62-66). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claims 13, 15 are rejected on grounds corresponding to the reasons given above for claims 2, 4.

6.   Claims 5, 6, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal et al., "Neal" (U.S. Patent No. 6,324,534), further in view of Ozawa et al., "Ozawa" (JP. Patent No. 7-271798), and further in view of Megiddo et al., "Megiddo" (U.S. Patent No. 6,182,070).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1. However the combination of Neal and Ozawa does not explicitly disclose a method wherein one

of the collected statistical values corresponds to a number of instances that a search

rule retrieves a record previously retrieved by a previously executed search rule.

Megiddo teaches a method wherein one of the collected statistical values

corresponds to a number of instances that a search rule retrieves a record previously

retrieved by a previously executed search rule (See for example: col. 9 line 60 – col. 10

line 62).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to collect a number of instances that a search rule retrieves a

record previously retrieved by a previously executed search rule as disclosed by

Megiddo as one of the collected statistical values of a search rule executed to search

for the target record as taught by the combination of Neal and Ozawa in order to

determine the statistical significance of an association rule (See for example: col. 10

lines 15-16). One of ordinary skill in the art would be motivated to make the

aforementioned combination with reasonable expectation of success.

Claim 6 is rejected for the reasons set forth hereinabove for claim 1. However

the combination of Neal and Ozawa does not explicitly disclose a method one of the

collected statistical values corresponds to a number of instances that a search rule

retrieves a record that was not retrieved by a previously executed search rule.

Megiddo teaches a method wherein one of the collected statistical values

corresponds to a number of instances that a search rule retrieves a record that was not

retrieved by a previously executed search rule (See for example: col. 9 line 60 – col. 10

line 62).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a number of instances that a search rule retrieves a record that was not retrieved by a previously executed search rule as disclosed by Megiddo as one of the collected statistical values of a search rule executed to search for the target record as taught by the combination of Neal and Ozawa in order to determine the statistical significance of an association rule (See for example: col. 10 lines 15-16). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claims 16, 17 are rejected on grounds corresponding to the reasons given above for claims 5, 6.
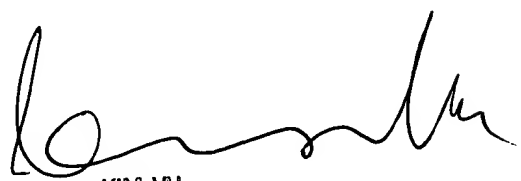
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.
18 November 2003

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100